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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/824,648

04/15/2004

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Q80067

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23373 7590 09/21/2007  
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EXAMINER

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ART UNIT

PAPER NUMBER

2875

MAIL DATE

DELIVERY MODE

09/21/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

Application Number: 10/824,648  
Filing Date: April 15, 2004  
Appellant(s): MIN ET AL.

**MAILED**

SEP 21 2007

**GROUP 2800**

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Min et al.  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 2/13/2007 appealing from the Office action mailed 7/25/2006.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

No amendment after final as been filed.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

US 6,616,289	Umemoto et al.	09-2003
US 2003/0147259	Kraft	8-2003

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kraft (US Pub 2003/0147259) in view of Umemoto et al. (US Pat 6616289).

As for claim 1, Kraft discloses an edge-light type backlight system comprising a light guide panel including a light incident surface (Fig 1) into which light enters and a light emitting surface (Fig 1) from which light is emitted. Kraft teaches a light source which projects light to the light incident surface, and a polyhedral optical deflector including a first surface and a second surface, the first and the second surface are on opposite sides of a normal line orthogonal to the light incident surface and being more distant from each other as distance from the light incident surface increases, wherein the optical deflector is disposed on at least one of the light emitting surface and a surface opposite to the light emitting surface. Kraft fails to teach backlight system using a rod-shaped light source. Umemoto et al. teaches the use of a rod-shaped light source (column 8, lines 29+) in use with a similar backlight system. It would have been obvious for one of ordinary skill in the art to combine the rod-shaped light of Umemoto et al. with the device of Kraft, since the use of point source lights and rod/tube lights are equivalents in the art and the use of a rod-shaped source would reduce the number of parts in the device.

As for claim 2, Kraft further discloses a plurality of optical deflectors (Fig 1A) are arranged along the light incident surface.

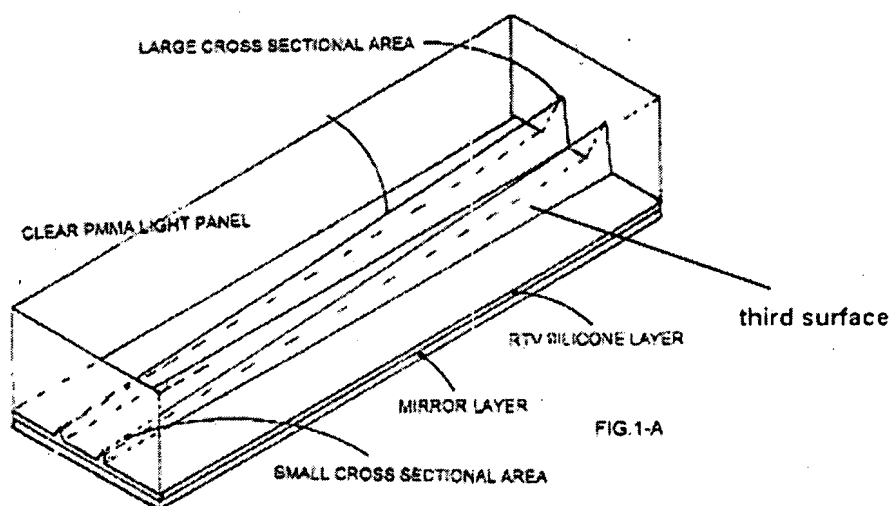
As for claim 3, Kraft further teaches that the optical deflector has the same refractive index as the light guide panel, since they are both made from the same material because of being integral parts of the device (as shown in Fig 1A).

As for claim 4, Kraft further discloses an optical deflector that is integrally formed with the light guide panel (Fig 1A).

As for claim 5, Kraft further discloses that the first surface and the second surface are symmetrical about the normal line orthogonal to the light incident surface (Fig 1A).

As for claim 6, Kraft further discloses that the first surface and the second surface are extended up to a surface opposite to the light incident surface (Fig 1A).

As for claim 7, Kraft further discloses that the optical deflector further includes a third surface (indicated below, the underside) opposing the light emitting surface, and the third surface is parallel to the light emitting surface.



As for claim 8, Kraft further discloses that a cross-section of the optical deflector in parallel to the light emitting surface is in the shape of a triangle whose oblique sides are the first and second surfaces and the bottom side is opposite to the light incident surface (Fig 1A).

As for claim 9, Kraft further discloses that a cross-section of the optical deflector in parallel to the light emitting surface is in the shape of a trapezoid whose oblique sides are the first and second surfaces and the bottom side is opposite to the light incident surface (Fig 1A).

As for claim 10, Kraft teaches a light guide panel of an edge-light type backlight system comprising a light incident surface (Fig 1) into which light enters, a light emitting surface (Fig 1), from which light is emitted and an optical deflector (Fig 1A) protruding from the light emitting surface and a surface opposite to the light emitting surface. It can be concluded from Kraft's drawings that a cross-section of the optical deflector in parallel to the light emitting surface being in the shape of a triangle whose bottom side is a surface opposite to the light incident surface, the triangular cross-section being extended in a direction perpendicular to the light emitting surface. Kraft fails to teach backlight system using a rod-shaped light source. Umemoto et al. teaches the use of a rod-shaped light source (column 8, lines 29+) in use with a backlight system. It would have been obvious for one of ordinary skill in the art to combine the rod-shaped light of Umemoto et al. with the device of Kraft, since the use of point source lights and rod/tube lights are equivalents in the art.

As for claim 11, Kraft teaches a plurality of optical deflectors are arranged along the light incident surface (Fig 1A).

As for claim 12, Kraft further discloses that the optical deflector further includes a third surface (see the drawing on page 3 of the instant application) opposing the light-emitting surface, and the third surface is parallel to the light-emitting surface.

As for claim 13, Kraft further discloses that the optical deflector further includes a third surface opposing the light emitting surface, and the third surface is parallel to the light emitting surface (Fig 1).

As for claim 14, Kraft further teaches that the optical deflector is extended up to a surface opposite to the light incident surface (Fig 1A).

#### **(10) Response to Argument**

Appellant argues that Kraft teaches away from using a rod-shaped light source and thus the combination of Kraft and Umemoto does not yield the combination as recited in appellant's claims. Referencing paragraph 0037 of Kraft, the second sentence states: "[L]ight entering the tapered light guide injection can be from *any light source* (emphasis added) and can be conducted by any fiber optic or light pipe system." This statement allows the introduction of Umemoto into the rejection. Umemoto discloses a rod-shaped light source.

Appellant further argues that Kraft teaches away from the rod-shaped light source and refers to paragraph 0038. However, it is clear from paragraph 0038 and figure 1, that the light flux is spread though out the tapered light guide (by reflection) so that the light will be evenly distributed across the proximal end of the tapered light guide

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entering the light emitting area (of the optical deflector). Since the two areas are matched and their cross sectional area would have a width greater than the height, one of ordinary skill in the art could easily see to use the rod-shaped light source of Umemoto.

Appellant goes on to describe Kraft's invention "operates to avoid a wide spread beam". Figure 1 of Kraft shows the tapered light guide as having the light entering the narrow portion and exiting at the broader end portion. In order for the light exiting the tapered light guide to illuminate the entire entrance face of the light emitting area, the tapered light guide spreads the light along the entire exit face (see paragraph 12). Further, it is clear from taking Kraft as a whole, that the combination of his light source and the tapered light guide is replacing the conventional fluorescent lamp (see paragraph 13). Hence, it is very clear that Kraft's light source for the light emitting area is the combination of the light source and the tapered light guide.

The office proposes replacing the point light source and the tapered light guide portion of Kraft with the rod-like light source of Umemoto. The object of Kraft's invention is to have a light source remote to the light guiding and light-emitting zone. In this case, it is within the realm of one of ordinary skill in the art to replace the point light source and tapered light guide of Kraft with a rod-like light source, such as light source of Umemoto, since removal of the tapered portion of Kraft would require a wide-spread beam for even lighting

**(11) Related Proceeding(s) Appendix**



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No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Evan Dzierzynski

Conferees:



Ricky Mack



Sandy O'Shea

Sandra O'Shea  
Supervisory Patent Examiner  
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